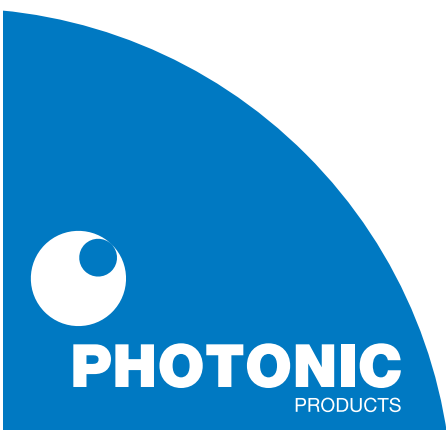


sheet

data



Photon laser diode Modules 785nm

Key features

- Near infra-red light $\lambda = 785\text{nm}$
- Output powers from 0.9mW to 12.0mW
- Adjustable optics
- High reliability

Applications

- Machine vision
- Spectroscopy
- Industrial inspection
- Sensors

Options

- PM: Photon Module
- PMF: Photon Module with Flange

785nm Elliptical Beam Photon Laser Diode Modules

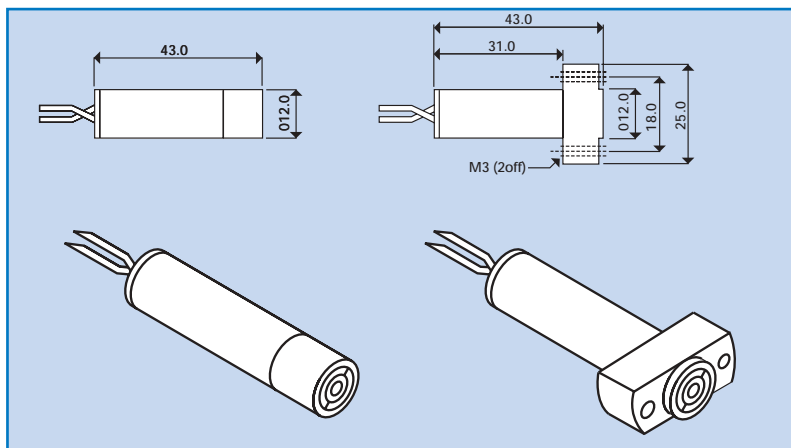
The 785nm Photon Laser Modules produce an elliptical output beam of 4.0 x 2.0mm ($1/e^2$), with output powers from 0.9mW to 12mW. Operating voltage is from 2.7V to 6V DC at operating currents from 35mA to 60mA. Beam divergence is $<0.6 \times 0.3\text{mrad}$ and operating temperature range is -10°C to $+60^\circ\text{C}$.

The modules consist of an aluminium housing, laser diode, drive circuit and collimating lens. They can be supplied in various colours, (red, green, blue, black,

violet), to assist in wavelength or power identification. The PMF modules have a 25mm mounting flange.

Electrical connections are made via external flying leads. The lens may be adjusted to produce either a collimated beam or focused spot. The standard lens may be replaced by other optical systems such as line generators.

The Photon range of elliptical beam laser diode modules has been designed as complete laser diode systems for OEM use.



the **Laser Diode** specialists

Photon laser diode modules 785nm

Specifications (typical @ tc = 25°C)

| | | | |
|--|-------------------------|----------------|--------|
| Part no. PM/PM | 104-P | 204-P | 404-P |
| Wavelength | 785nm | 785nm | 785nm |
| Output Power | 0.9mW | 3.0mW | 12.0mW |
| Power Stability | | < 5% | |
| Beam Size (1/e ²) | | 4.0x2.0mm | |
| Beam Divergence | | 0.6x0.3mrad | |
| Pointing Stability | | <0.2mrad/°C | |
| Bore Sighting | | <2.0° | |
| Operating Voltage (DC) | | 2.7-6.0V | |
| Operating Current | 35mA | 45mA | 60mA |
| Operating Temperature (non-condensing) | | -10°C to +60°C | |
| Storage Temperature | | -40°C to +85°C | |
| Length | | 43mm | |
| Diameter (mounting flange 25mm) | | 12mm | |
| Housing Material | HE30 Anodised Aluminium | | |
| Flying Lead Length | | 300mm | |

Heat Sinking

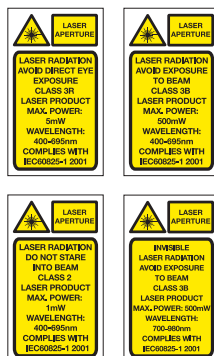
If the case temperature of the laser diode exceeds its maximum specification, premature or catastrophic failure may occur. To ensure the maximum life of the laser diode, it is recommended that an additional electrically insulated heatsink, of at least 35 sq.cm. be used. Thermal transfer cream can be used to improve contact and heat dissipation. Do not restrict air circulation around the device.

Power Connections

The Photon laser diode modules require a regulated input voltage of 2.7-6V DC. Connections are made via the 2 pre-tinned external flying leads, (red is positive, black is negative).

WARNING: The anodised housing is internally connected to the positive supply rail. Damage to the external anodised surfaces will result in the housing being at positive potential.

Specifications subject to change without notice. E&OE



Laser Safety

The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into three different categories depending on light emitted, wavelength and eye safety.

CLASS II

"Caution", visible laser light less than 1.0mW. Considered eye safe, normal exposure to this type of beam will not cause permanent damage to the retina.

CLASS IIR

"Danger", visible laser light between 1.0mW and 5.0mW. Considered eye safe with caution. Focusing of this light into the eye could cause some damage.

CLASS IIIB

"Danger", infrared (IR), and high power visible lasers considered dangerous to the retina if exposed.

NB: It is important to note that while complying with the above classifications, unless otherwise stated, our laser diode products are not certified and are designed solely for use in OEM products. The way in which the device is used in the final product may alter its original design classification, and it is the responsibility of the OEM to ensure compliance with the relevant standards.

PHOTONIC PRODUCTS UK LIMITED

Pierce Williams, Sparrow Lane
Hatfield Broad Oak, Hertfordshire CM22 7BA UK
Telephone: +44 (0) 1279 717170
Facsimile: +44 (0) 1279 717171
E-mail: sales@photonic-products.com
www.photonic-products.com

PHOTONIC PRODUCTS USA

Telephone: +1 714-841-1960
E-mail: salesusa@photonic-products.com

PHOTONIC PRODUCTS GERMANY

Telefon: +49 (0) 8142 / 669 8364
E-mail: salesgermany@photonic-products.com
www.photonic-products.com



PHOTONIC
PRODUCTS

Issue C:10/04

the **Laser Diode** specialists